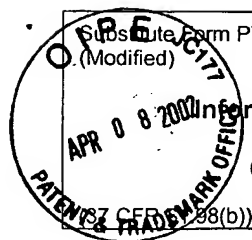


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 U.S. Department of Commerce  
Patent and Trademark Office

 Attorney's Docket No.  
10454-017001

 Application No.  
10/006,492

 Applicant  
Lawrence R. Toll et al.

 Filing Date  
December 3, 2001

 Group Art Unit  
1645

**Information Disclosure Statement  
by Applicant**

(Use several sheets if necessary)

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
MPA	AA	6,128,587	10/03/2000	Sjolander			
	AB						

**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AC							
	AD							

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
MPA	AE	Baldi, P. et al., "Hidden Markov Models of Biological Primary Sequence Information", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, pp. 1059-1063; February 1994.
	AF	Barrett, C. et al. "Scoring Hidden Markov Models", <i>CABIOS</i> , Vol. 13, No. 2, pp. 191-199; 1997.
	AG	Brakch, N. et al. "Favourable Side-Chain Orientation of Cleavage Site Dibasic Residues of Prohormone in Proteolytic Processing by Prohormone Convertase 1/3", <i>Eur. J. biochem.</i> Vol. 267, pp. 1626-1632; 2000.
	AH	Brown, M. et al., "Using Dirichlet Mixture Priors to Derive Hidden Markov Models for Protein Families", <i>Proc. of First Int. Conf. on Intelligent Systems for Molecular Biology</i> , pages 47--55, Menlo Park, CA, July 1993. AAAI/MIT Press.
	AI	<del>Bucher, P. et al., "A Flexible Motif Search Technique based on Generalized Profiles", <i>Computers and Chemistry</i>, Vol. 20 pp. 3-24, January 1996. draft not publication</del>
MPA	AJ	Chesneau, V. et al., "N-Arginine Dibasic Convertase (NRD Convertase): A Newcomer to the Family of Processing Endopeptidases", <i>Biochimic</i> Vol. 76, pp. 234-240; Paris, March 1994.
	AK	Chou, K-C. et al., "Studies on the Specificity of HIV Protease: An Application of Markov Chain Theory", <i>Journal of Protein Chemistry</i> , Vol. 12, No. 6, pp. 709-724; 1993.
	AL	Chou, K-C., "Prediction of Human Immunodeficiency Virus Protease Cleavage Sites in Protein", <i>Analytical Biochemistry</i> Vol. 233, pp. 1-14; 1996.
	AM	Chou, K-C. et al., "Predicting Human Immunodeficiency Virus Protease Cleavage Sites in Proteins by a Discriminant Function Method", <i>Proteins: Structure, Function, and Genetics</i> Vol. 24, pp. 51-72; 1996.
x	AN	Eddy, SR., "Hidden Markov Models", <i>Current Opinion in Structural Biology</i> , Vol. 6, pp. 361-365, 1996.
	AO	Eddy, SR., "Profile Hidden Markov Models", <i>Bioinformatics</i> , Vol. 14, review of HMMs 1998.
	AP	Eddy, SR. et al., "Maximum Discrimination Hidden Markov Models of Sequence Consensus", <i>J. Computational Biology</i> Vol. 2 pp. 9-23, 1994.
	AQ	Eddy, SR., "Multiple Alignment Using Hidden Markov Models", <i>Proc. Third Int. Conf. Intelligent Systems for Molecular Biology</i> , AAAI Press, Menlo Park, pp. 114-120. PostScript; 1995.

Examiner Signature

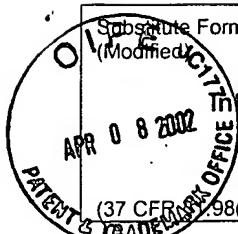
Mprairie P. Allen

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Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney's Docket No. 10454-017001	Application No. 10/006,492
<b>Information Disclosure Statement                  by Applicant</b> (Use several sheets if necessary)				Applicant Lawrence R. Toll et al.	
(37 CFR 1.98(b))				Filing Date December 3, 2001	Group Art Unit T645 / 631

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AR	<del>Grate, L. et al., "Tutorial: Stochastic Modeling Techniques: Understanding and Using Hidden Markov Models" University of California, Santa Cruz, CA, pp 1-34, June 1996.</del>
MPA	AS	Grice, JA. Et al., "Reduced Space Sequence Alignment", <i>CABIOS</i> , Vol. 13, pp. 45-53, 1997.
	AT	<del>Grundy, WN., et al., "Meta-MEME: Motif-Based Hidden Markov Models of Protein Families", to appear in <i>Computer Applications in the Biosciences</i>, 1997.</del>
MPA	AU	Hughey, R. et al., "Hidden Markov Models for Sequence Analysis: Extension and Analysis of the Basic Method", Reprint <i>CABIOS</i> Vol. 12, pp. 95-107, 1996.
	AV	Hughey, R. et al., "SAM : Sequence Alignment and Modeling Software System", <i>Technical Report UCSC-CRL-96-22</i> , University of California, Santa Cruz, CA, July 1998..
	AW	Hughey, R., "Massively Parallel Biosequence Analysis.", <i>Technical Report UCSC-CRL-93-14</i> , University of California, Santa Cruz, CA, April 1993.
	AX	Jagla, B. et al., "Adaptive Encoding Neural Networks for the Recognition of Human Signal Peptide Cleavage Sites" <i>BIO</i> , Vol. 16, No. 3, March 2000.
	AY	<del>Karchin, R. et al., "Weighting Hidden Markov Models for Maximum Discrimination", <i>Bioinformatics</i>, Vol. 14, pp. 772-782, 1998.</del>
MPA	AZ	Karchin, R., "Hidden Markov Models and Protein Sequence Analysis" from <a href="http://www.cse.ucsc.edu/research/compbio/ismb99.handouts/KK185FP.html">http://www.cse.ucsc.edu/research/compbio/ismb99.handouts/KK185FP.html</a> printed from website March 14, 2002.
	AAA	Karplus, K. et al., "Hidden Markov Models for Detecting Remote Protein Homologies", <i>BIO Informatics</i> , Vol. 14, No. 10, pp. 846-856; October 1998.
	ABB	Karplus, K. et al., "Predicting Protein Structure Using Hidden Markov Models", <i>Proteins: Structure, Function, and Genetic</i> , Suppl., pp. 134-139; September 1997.
	ACC	Krogh, A. et al., "Hidden Markov Models in Computational Biology. Applications to Protein Modeling", <i>J. Mol. Biol.</i> Vol. 235, pp. 1501-1531; February 1994.
	ADD	Krogh, A. et al., Predicting Transmembrane Protein Topology with a Hidden Markov Model: Application to Complete Genomes" <i>Journal of Molecular Biology</i> Vol 305, No. 3, pp.567-580; 2001.
	AEE	Ladunga, I., "Large-Scale Predictions of Secretory Proteins from Mammalian genomic and EST sequences" <i>Analytical Biotechnology</i> , pp. 13-18; 2000.
	AFF	Lockless, SW. et al. "Evolutionarily Conserved Pathways of Energetic Connectivity in Protein Families", <i>Science</i> Vol. 286, pp. 295-299; October 1999.
	AGG	<del>McClure, MA. et al., "Parameterization studies for the SAM and HMMER methods of hidden Markov model generation", <i>Proc. Fourth Int. Conf. Intelligent Systems for Molecular Biology</i>, pp. 155-164, UNLV, Las Vegas.</del>
MPA	AHH	Nielsen, H. et al., "Identification of Prokaryotic and Eukaryotic Signal Peptides and Prediction of Cleavage Sites", <i>Protein Engineering</i> Vol. 10, No 1, pp.1-6; January 1997.
	AII	Nielsen, H. et al. "Prediction of Signal Peptides and Signal Anchors by a Hidden Markov Model", <i>American Association for Artificial Intelligence ISMB</i> , pp. 122-130; 1998.
	AJJ	Nielsen, H. et al. "Machine Learning Approaches for the Prediction of Signal Peptides and Other Protein Sorting Signals", <i>Protein Engineering</i> Vol. 12, No. 1, pp. 3-9; January 1999.
	AKK	Paracel, "Hidden Markov Model", from <a href="http://paracel.com/publications/hmm_white_paper.html">http://paracel.com/publications/hmm_white_paper.html</a> printed from website March 14, 2002.

Examiner Signature 	Date Considered 8/11/03
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Lawrence R. Toll et al.

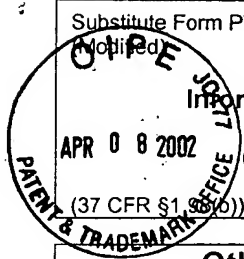
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**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
MPA	ALL	Rabiner, LR., "A Tutorial on Hidden Markov Models and Selected Applications in Speech Recognition", <i>Proceedings of the IEEE</i> , Vol. 77, No 2, pp.257-186; February 1989.
↓	AMM	Rholam, M. et al., "Role of Amino Acid Sequences Flanking Dibasic Cleavage Sites in Precursor Proteolytic Processing. The Importance of the First Residue C-terminal of the cleavage site", <i>Eur. J. Biochem.</i> Vol. 227, pp. 707-714; February 1995.
	ANN	<del>Tarnas, C. et al., "Reduced space hidden Markov model training", <i>Bioinformatics</i>, Vol. 14, pp. 401-406, 1998.</del>
MPA	AOO	UCSC Comp. Biol. Group, "Sequence Alignment and Modeling System" from <a href="http://www.cse.ucsc.edu/research/compbio/sam.html">http://www.cse.ucsc.edu/research/compbio/sam.html</a> printed from website March 14, 2002.
	APP	
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(37 CFR 1.98(b))

Applicant

Lawrence R. Toll et al.

Filing Date

December 3, 2001

Group Art Unit

~~1645~~ 1631**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
MPA	BA	6,314,434 B1	11/06/01	Shigemi et al.			
↓	BB	5,873,052	02/16/99	Sharaf			
	BC	5,701,256	12/23/97	Marr et al.			
↓	BD	5,568,563	10/22/96	Tanaka et al.			
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**Foreign Patent Documents or Published Foreign Patent Applications**

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							Yes	No
	BL							
	BM							
	BN							
	BO							
	BP							

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	BR	
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10454-017001Application No.  
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Lawrence R. Toll et al.Filing Date  
December 3, 2001Group Art Unit  
1631**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date if Appropriate
MAA	CA	US 6,438,496 B1	Aug. 20, 2002	Yoshida <i>et al.</i>	702	19	Aug. 20, 1998
	CB						
	CC						
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	CL							
	CM							
	CN							
	CO							
	CP							

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	CR	
	CS	
	CT	

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